Aligning Recommender Systems with Viewing Practices

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Abstract
In this workshop paper we provide an overview of our research activities and results in the TV-RING project. Specifically, we present our on-going efforts regarding the alignments of recommender systems with viewing practices. Recommender systems research has long focused on the technical aspects; in recent years the focus has evolved and now includes user experience aspects. Our aim is to gain a better understanding of how people typically watch TV, and how they experience typical viewing situations. From these insights we are now starting to design different interfaces that are meant to support the right viewing experience in each situation. With interfaces we mainly consider the offering of the content before watching TV.

Author Keywords
Recommendations; viewing practices; user experience; TV; design.

ACM Classification Keywords
H.5.m. Information interfaces and presentation (e.g., HCI): Miscellaneous.

Introduction
Recommender systems aim to help people make a suitable choice, or the best possible choice out of a collection that is just too big to process personally. In

order to do so they incorporate the tastes or preferences of people, contextual elements, group composition if there are multiple people using the system, and more [5].

While the focus of recommender systems has broadened from algorithms in the backend, to usability [2] and user experience aspects [3], there is still a lot of work to be done. Churchill points to the concept of "*process personalisation*", the aspect of personalisation that pertains to the interactional aspects, on contrast to "*outcome personalisation*" that deals with the calculation of the items [4]. Integrating recommender systems in real-life applications and making sure they are accepted and adopted by users is a very difficult endeavour that the algorithms alone cannot solve [9].

What does this mean in a TV and video context? A good example is the work by Abreu et al. [1], who first established the reasons and the way people make decisions about what to watch, and then designed and evaluated a content interfaces that incorporated those elements – program genre, state of mind at the moment, being alone or accompanied, and available time. Their interface allows the user to indicate the intended audience, the kind of mood (attributed to the content), and which genres are preferred. The content is subsequently filtered according to these elements.

Adapting the interface to the context of use

In our approach we try to better match the interface and the way the content is offered to the actual viewing situation viewing situation. In an earlier project with news media we explored this idea via a tablet prototype [8]. We investigated when people read what, and looked at different possibilities to support these use situations by adapting the content and the interface (longer news articles when people have the time for it, shorter updates while commuting etc.).

In order to adapt interfaces that offer TV or video content, we first wanted to gain a better understanding of the current media landscape [6] and determine typical viewing situations at home [7]. In the first study [6] we interviewed 7 households (families, couples, grandparents and singles) with regard to their typical viewing behaviour: which devices and services they use, what programs they watch at which times, and when they watched broadcast or live TV vs. different on-demand solutions (PVR, downloads, VoD). In the latter study [7] we gathered seven families in our design study to map their diary entries of viewed content (4 days). The workshop was organized on two different days: four households participated in the first workshop, three in the second. Based on the same factors as in [1] – mood, content, time, and viewers – we put a large sheet of paper containing one factor on four different tables. Each household would then write their diary entries and related comments onto the large sheet of paper related to one of the themes. After four rotations every household would have provided input on the four themes. Then, we put the large sheets of paper to the wall and asked them to pick the relevant post-its from each theme – mood, content, time and viewers – and cluster them in a way that resembles how video and TV is viewed at their homes. After they could not find any more situations (saturation) we asked them to present their clusters to the group and talk about them so as to acquire a more descriptive account of their typical viewing experiences.

After transcribing those presentations and analysing the clusters, we arrived at seven different viewing situations: weekend mornings, when the children are sleeping, family quality time, relaxing after school, a free moment, men and sports, and lazy afternoons. For each situation we mapped the respective contextual factors (mood, content, time, and viewers). For example, we noticed that after bedtime for the children, parents usually had the time to watch something they really liked; in those situations they often watched on-demand content (vs. broadcast TV), mainly drama series, and wanted to relax.

Conclusion

Our goal now is to better support these different viewing situations via different designs. These designs would then mainly focus on the offering of content. The interface concepts would then vary according to their look & feel, the amount of content offered, the way the content is offered, and the type of content offered (genre). In the coming months we will also evaluate these concepts in a field trial with 40 households.

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